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EXAMINER

ROGERS, DAVID A

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/806,274
Filing Date: March 27, 2001
Appellant(s): BEIMESCH, WAYNE EDWARD

MAILED

DEC 9 2005

GROUP 2800

Janelle D. Strode
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11 November 2005 appealing from the Office action mailed 07 February 2005.

(1) *Real Party in Interest*

A statement identifying by name the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

This application is before to the Board of Patent Appeals and Interferences (BPAI) for the second time. The BPAI previously rendered an opinion on this case on 19 March 2004. A copy of the BPAI's decision is attached to the appellant's brief.

The examiner is not aware of any other related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) *Status of Claims*

The statement of the status of claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Claimed Subject Matter*

The summary of claimed subject matter contained in the brief is correct.

(6) *Grounds of Rejection to be Reviewed on Appeal*

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims.

(A) Claims 1, 3, 4, and 6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 5,140,845 to Robbins in view of "Chemical Principles" to Masterton *et al.* and "Compilation of Air Pollutant Emission Factors, AP-42" to the Environmental Protection Agency (EPA).

Robbins teaches that storage tanks are a source of volatile organic compounds(VOCs) (column 1, lines 16-20). Robbins then teaches a method and apparatus for measuring VOCs in surrounding soils that have become contaminated by the material in the storage tanks. In particular, Robbins teaches a method wherein a sample (an aqueous sample or a soil sample mixed with distilled water) (column 3, lines 35-37) is placed into a resealable polyethylene bag (reference item 120). After sealing, the bag is agitated to promote the release of any VOCs present in the sample. Robbins' method requires that equilibrium be obtained in the headspace of the sealed bag prior to testing for VOCs. After equilibrium is reached a flame ionization detector

(FID) is used to detect any VOCs in a sample obtained from the bag's headspace. Finally, it is commonly known that gas chromatographs and FIDs are used to determine analyte quantities in the sample based on the peak value, i.e., the measured response of the GC/FID.

For equilibrium to be reached in the bag's headspace the temperature of must be held essentially constant. Robbins cites "Water Quality" to Tchobanoglous, generally on column 2, lines 55-68, and column 3, lines 1-7, to show that that time, mass size, and temperature all directly affect headspace equilibrium. This is also discussed in Masterton *et al.* below. Robbins teaches that it is beneficial to store the bag at an optimum temperature in order that the headspace reach this required state of equilibrium (see column 5, lines 1-6). Robbins also teaches that time is a relevant factor to reach the desired equilibrium in the headspace (column 4, lines 57-58). Finally, Robbins teaches that the initial mass of the sample is directly related to the measured equilibrium headspace concentration (equation 5, equation 7). Robbins does not expressly teach a method for testing materials from a process system where the material is placed in a sealable bag and is stored at the mean exit temperature of said emissions of said system.

Masterton *et al.* is cited for support of the commonly known scientific principles of liquid-vapor headspace equilibrium in a closed system. In Masterton *et al.* a sealed flask is used, however the scientific principles apply equally to a sealed bag. Masterton *et al.* teaches that a liquid placed in the

closed system will, over time, reach a state of equilibrium with regard to the headspace. Equilibrium is the state wherein, at any given temperature, the number of molecules from the liquid entering into the vapor state (into the headspace) equals the number of molecules reentering the liquid state. At higher temperatures a larger fraction of molecules will acquire enough energy to escape from the liquid to the vapor. This means that at higher temperatures more vapor molecules will be present in the headspace than at lower temperatures. Over time a state of headspace equilibrium will be reached. It is just that more molecules will be present in the vapor when equilibrium is reached using higher temperatures.

Furthermore, the EPA continually promulgates information and guidance to the public regarding hazardous materials. Of particular relevance to the instant application is EPA Method AP-42. Section 6.8 of this method, written July 1993, addresses soaps and detergents. Method AP-42 teaches that certain processes such a spray drying can release VOCs into the atmosphere, which the appellant also admits is well-known. Furthermore, section 6.8.3.1 of Method AP-42 states (emphasis added):

The main atmospheric pollution problem in soap manufacturing is odor¹. The storage and handling of liquid ingredients (including sulfonic acids and salts) and sulfates are some of the sources of this odor. Vent lines, vacuum exhausts, raw material and product storage, and waste streams are all potential odor sources. Control of these odors may be achieved by scrubbing exhaust fumes and, if necessary, incinerating the remaining volatile organic compounds (VOC).

¹ Method AP-42 refers to odors as VOCs.

In section 6.8.3.2 it is stated (emphasis added):

In addition to particulate emissions, volatile organics may be emitted when the slurry contains organic materials with low vapor pressures. The VOCs originate primarily from the surfactants included in the slurry. The amount vaporized depends on many variables such as tower temperature and the volatility of organics used in the slurry. These vaporized organic materials condense in the tower exhaust airstream into droplets or particles. Paraffin alcohols and amides in the exhaust stream can result in a highly visible plume that persists after the condensed water vapor plume has dissipated.

Opacity and the organic emissions are influenced by granule temperature and moisture at the end of drying, temperature profiles in the dryer, and formulation of the slurry. A method for controlling visible emissions would be to remove offending organic compounds (i.e., by substitution) from the slurry. Otherwise, tower production rate may be reduced thereby reducing air inlet temperatures and exhaust temperatures. Lowering production rate will also reduce organic emissions.

It is quite clear from Method AP-42 that process system temperature is a major causal factor in the release of VOCs into the atmosphere. Furthermore, drying towers, vent lines, vacuum exhausts, and waste streams are all regions within a process system whose temperature can be measured.

Section 7.1 of Method AP-42 details VOC emissions from process systems such as storage tanks. This section also provides a listing of some known VOCs and their boiling points and vapor pressures (see table 7.1-3). This section also provides a detailed example on estimating the emission rate of VOCs from the material in a storage tank (see pages 7.1-73 through 7.1-83). It is also clear from this estimating process that VOC emission rates are dependent on the temperature of the material within the tank, the vapor space

volume, and the equilibrium partial pressures of the volatile organic liquids in the material.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Robbins with the teachings of Masterton *et al.* and Method AP-42 in order to provide a sample of material produced in a process system, seal the material in a bag in order to have a headspace, and then to hold the material at the mean exit temperature of the emissions of the system in order to allow the headspace to come to equilibrium prior to testing for the presence of VOCs using techniques such as a flame ionization detector.

Replicating the conditions of a process used to create a VOC-containing product, e.g., replicating the temperature at which VOC-containing products are manufactured, would allow one of ordinary skill to determine if their process was indeed causing excessive VOCs to be released into the atmosphere. Since vapor pressure of liquids increases with temperature, VOC release rates will be higher at those regions in the manufacturing process that are at elevated temperatures. These increased release rates must be monitored to ensure that the manufacturing process is in compliance with state and federal laws that require monitoring of VOCs. See also the appellant's specification, particularly the background of the invention, where it is clearly admitted that virtually all manufacturing facilities in the world monitor for VOC release.

By understanding this basic relationship between temperature and vapor pressure one could then use techniques to minimize the amount of VOCs released, such as by scrubbing, incineration, substitution, and lower temperatures. See again section 6.8.3.1 of Method AP-42.

In summary Robbins teaches that materials are placed in a sealed bag and maintained at a temperature until the headspace reaches equilibrium and then testing the headspace using an FID. Masterton *et al.* teaches that, within a closed system, headspace equilibrium is eventually reached independent of the maintained temperature and that more molecules will be in the vapor state in the headspace at higher temperatures. Finally, Method AP-42 teaches that in a process system such as a drying tower the amount of VOCs released depends on the temperature of the tower. The information shows that one of ordinary skill in the art would know to provide a sample of material from a process system, seal that material within a closed system having a headspace, and then exposing the closed system to a constant temperature that replicates the mean exit temperature of the process system. This particular temperature will, as taught by Method AP-42, replicate the operating conditions of the process system where VOC emission rates can be the highest.

With regard to claim 4 Robbins in view of Masterton *et al.* and Method AP-42 teaches that it is known that in a closed system (sealed bag, sealed flask) the initial mass and the temperature affect the equilibrium. The time to reach equilibrium is, therefore, dependent on amount of material, the

temperature of the material, and the vapor pressure of the materials of interest. The time for reaching equilibrium, e.g., a time between 5 and 24 hours, therefore, is dependent on knowing the conditions (temperature, sample size) being tested and would be determined on a case-by-case basis.

(B) Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Robbins in view of Masterton *et al.* and Method AP-42 as applied to claim 1 above, and further in view of United States Patent 5,809,664 to Legros *et al.*

Robbins in view of Masterton *et al.* and Method AP-42 show that it is known to test for VOCs using a sample stored in a sealed bag and where the source of the material can be a spray dryer or storage tank. Robbins in view of Masterton *et al.* and Method AP-42 does not expressly teach that the source of the material can be a fluid bed dryer.

Legros *et al.* teaches that it is known that fluid bed dryers are a source of VOCs and that incinerators are used to eliminate the VOCs released into the atmosphere (Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Robbins in view of Masterton *et al.* and Method AP-42 with the teachings of Legros *et al.* This would allow a simple process to be implemented so that a sample of material from the process can be tested in order to determine if the fluid bed dryers are actually releasing VOCs.

Also, the applicant admits that "VOC measurement techniques have been developed and have been constantly employed to monitor VOC emissions of virtually every unit operation in every manufacturing facility throughout the world." Finally, by testing for VOCs in the material in the fluid bed dryer process it can be quickly be determined if the incinerator is actually needed; i.e., the incinerator can be turned off if the sample shows that the process is not releasing VOCs.

(C) Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Robbins in view of Masterton *et al.* and Method AP-42 as applied to claim 1 above, and further in view of United States Patent 5,522,271 to Turriff *et al.* or Method 5035 to the EPA.

Robbins in view of Masterton *et al.* and Method AP-42 teaches that it is known to place material in a sealed bag and then to let the headspace in the bag reach equilibrium prior to sampling for the presence of VOCs. Furthermore, Robbins teaches that, in headspace sampling, a consistent volume or weight of ground water or soil is placed in a container (column 1, lines 48-50) and the initial mass of the sample is critical to headspace equilibrium (columns 5-6). Robbins in view of Masterton *et al.* and Method AP-42 does not expressly teach a sample size between 1 gram and 100 grams.

Turriff *et al.* teaches an apparatus for obtaining samples for VOC testing. The sampling device has a volume capacity of 25-30 grams (column 2, lines 64-67) and provides for the consistent volume for headspace sampling as required

by Robbins. Also, Method 5035, originally promulgated by the EPA in 1996, specifically addresses methods for testing of VOCs in solid materials such as soils, sediments, and solid wastes. This method can be used in conjunction with Method 8015 which includes testing using gas chromatographs and FIDs. Method 5035 teaches that VOCs are determined by collecting a sample having a mass of approximately 5 grams and placing it in a vial with a septum-sealed screw-cap. The vial is sealed and shipped to a laboratory or appropriate analysis site. The entire vial is then placed, unopened, into the instrument carousel. The vial containing the sample is heated to 40°C and the volatiles purged into an appropriate trap using an inert gas combined with agitation of the sample.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Robbins in view of Masterton *et al.* and Method AP-42 with the teachings of Turriff *et al.* and/or Method 5035 in order to provide an apparatus as part of the method to obtain a sample size between 1 and 100 grams in order that the consistent sample size is placed in the bag prior to sealing.

(D) Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Robbins in view of Masterton *et al.* and Method AP-42 as applied to claim 1 above, and further in view of "Determination of Volatile Organic Solvents in Water by Headspace Sampling with the 8200 CX Autosampler" to Penton.

Robbins in view of Masterton *et al.* and Method AP-42 teaches that it is known to provide a sample in a sealed bag (a closed system) and to heat the bag so that the headspace reaches equilibrium. Robbins in view of Masterton *et al.* and Method AP-42 further teaches that temperature affects the release of VOCs from a material. Robbins in view of Masterton *et al.* and Method AP-42 does not expressly teach a method where the material is held at a temperature between 5°C and 100°C.

Penton teaches that it is known in headspace sampling to maintain the closed system (a 22 mL vial having a 10 mL sample) at 80°C until headspace equilibrium is reached. Again, as known from Masterton *et al.*, equilibrium would have been obtained at any temperature. However more molecules will be released to vapor form at the higher temperature. This will increase the probability of detecting the VOCs in the sample.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Robbins in view of Masterton *et al.* and Method AP-42 with the teachings of Penton in order to provide a closed system (sealed bag) at a temperature between 5°C and 100°C in order to reach equilibrium in the headspace.

(E) Claims 8-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Robbins in view of Method AP-42, Method 5035, "Manual for the Certification of Laboratories Analyzing Drinking Water" to the EPA

(hereinafter referred to as EPA 815), and United States Patent 4,930,906 to Hemphill.

Robbins is a detailed description of the method (instructions) to place samples in a bag so that a) a headspace exists; b) that equilibrium is reached in the headspace; and c) that the headspace is sampled after equilibrium to detect VOCs using an FID. Method AP-42 teaches that systems with mean exit temperature can produce material with VOC emissions. Method 5035 teaches methods (instructions) for obtaining samples of solid materials, placing the samples in a sealed system, maintaining the sealed system at about 40°C, and subsequently testing the samples for VOCs using a device such as an FID. The combination of these references clearly shows a method for testing of VOCs using a sample from a closed system as discussed above.

EPA 815 specifically requires the need for instructions with a kit used for sampling of VOCs. Section 5, page IV-3 states:

All procedural steps in these methods are considered requirements.

Section 6 further states (emphasis added):

The manner in which samples are collected and handled is critical to obtaining valid data. It is important that a written sampling protocol with specific sampling instructions be available to and used by sample collectors and available for inspection by the certification officer.

and

The sample collector should be trained in sampling procedures and have complete written sampling instructions (SOPs) for each type of sample to be collected.

Furthermore, providing instructions with a sealable bag, thus forming a “kit” is known and is taught by Hemphill. In Hemphill a bag (reference item 10) has usage instructions (reference items 18 and 20) and can be temporarily or permanently sealed after material is placed inside.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Robbins with the teachings of Method AP-42, Method 5035, EPA 815, and Hemphill.

Providing the bag (from Robbins) and the modified instructions (from Robbins, Method AP-42, and Method 5035) together as a kit (as required by EPA 815) would help ensure that a user, being either a novice or an experienced individual, would be capable of correctly and consistently performing the required sampling and testing so as to minimize errors that might arise if standard procedures were not followed.

(10) Response to Arguments

(A) In response to the final rejection of claims 1, 3, 4, and 6 the appellant argues that Robbins does not teach or suggest a method for measuring volatile organic compounds in a process system having emissions. The appellant further argues, with regard to Masterton *et al.* and Method AP-42, that “[t]his [textbook, fact sheet] does not teach or suggest the method for measuring volatile organic compounds of Appellant’s invention as claimed.” In their 19 March 2004 decision the BPAI interpreted the term “process system” as being either an open or closed system. The BPAI also concluded

that the claimed sampled material could be any material (liquid, paste, or solid) produced in any open or closed process system. Finally, the BPAI limited process systems to those in which the mean exit temperature of said emissions of said system can be determined. The appellant has never disputed the BPAI's interpretations.

To rebut the first argument it is noted that Robbins need not teach or suggest a method using a "process system" as the source of the material. It is generally held that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Additionally, motivation need not be expressly stated in or otherwise suggested by Robbins. Motivation can be found in other sources, including other patents or from knowledge generally known to one of ordinary skill.

The appellant's specification states "exemplary process systems include spray dryers, mixers, fluid bed dryers and coolers, and storage tanks." See appellant's specification on page 4. Furthermore, it is known that Robbins teaches the sampling of ground soil that may have been contaminated from a nearby storage tank, i.e., contaminated by a leaking process system. The contaminated material tested by Robbins is "produced" outside of the process system, i.e., it is the result of leaking by the storage tank and is not "produced in a process system" as in the preamble of claim 1.

In the final rejection of the appellant's claims it was shown that Robbins teaches the claimed method except for the sampling of material produced in a process system. Robbins also does not teach storing a sealed bag at the mean exit temperature of the emissions of said system." It was also shown in the final rejection that Method AP-42 teaches that "process systems" such as spray dryers produce materials having VOC emissions and that specific areas including vent lines, vacuum exhausts, raw material and product storage, and waste streams are all potential odor (VOC) sources. These are all areas whose temperature can be determined. As noted above Section 7.1 of Method AP-42 teaches that VOC emission rates are directly related to temperature.

Masterton *et al.* was cited in the rejection to provide the scientific reasoning related to obtaining equilibrium in the headspace of a closed system. It was also cited to show that increased temperature results in increase amounts of material in the headspace.

Finally, the applicant admits in their specification that "VOC measurement techniques have been developed and have been constantly employed to monitor VOC emissions of virtually every unit operation in every manufacturing facility throughout the world."

In view of the combined teachings of the cited prior art one of ordinary skill would know to obtain a sample of material produced in a process system suspected of having emissions such as VOCs. One of ordinary skill would also know to place the sample in a sealed system to allow the headspace to reach

equilibrium; to hold the sealed system at the mean exit temperature of the process system until equilibrium in the headspace is reached; and to sample and analyze the headspace in order to determine the amount of VOCs present. Holding the sealed bag at the mean exit temperature replicates the operating conditions of the process system having emissions. This would allow one to quickly determine if the VOC emissions from the process system are too high.

(B) In response to the final rejection of claim 2 the appellant argues that there is no teaching or suggestion to combine any of the references.

To rebut it is noted that claim 2 merely recites the method of claim 1 wherein the sample comes from a fluid bed dryer. As noted above the applicant admits that "VOC measurement techniques have been developed and have been constantly employed to monitor VOC emissions of virtually every unit operation in every manufacturing facility throughout the world." Furthermore, Legros *et al.* teaches that fluid bed dryers create VOCs. One would certainly be motivated to sample the material to determine the amount of VOCs released. In fact, one would have had to sample and analyze the material from fluid bed dryers in order for Legros *et al.* to state that the dryers release VOCs.

(C) In response to the final rejection of claim 5 the appellant argues that there is no teaching or suggestion to combine any of the references.

To rebut it is noted that claim 5 merely recites the method of claim 1 wherein the sample has a mass between 1 and 100 grams. Robbins teaches

that amount of material can affect the time to reach equilibrium. Furthermore, the amount of material selected by Robbins more than likely was more than 1 gram. Turriff *et al.* and Method 5035 both teach obtaining samples having a mass between 1 and 100 grams. One of ordinary skill would know to choose an amount of material that is of sufficient mass to provide a proper indication of any VOCs that might be present in the process system.

Furthermore, Robbins recognizes that the mass of the sample affects equilibrium. Therefore, the mass of the sample is recognized in the art as a result-dependent variable. As noted in MPEP §2144.05:

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be *prima facie* obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.); see also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

In the present application the appellant has proffered no evidence that their claimed range of 1 gram to 100 grams is critical or otherwise provides unexpected results.

(D) In response to the final rejection of claim 7 the appellant argues that there is no teaching or suggestion to combine any of these references.

To rebut claim 7 merely recites the method of claim 1 wherein the temperature is between 5°C and 100°C (41°F to 212°F). Also, Robbins in view of Masterton *et al.* and Method AP-42 teaches that it is known to provide a sample in a sealed bag (a closed system) and to heat the bag so that the headspace reaches equilibrium. Penton teaches that it is known in headspace sampling to maintain the closed system (a 22 mL vial having a 10 mL sample) at 80°C until headspace equilibrium is reached.

As noted above Robbins in view of Masterton *et al.* and Method AP-42 teaches that higher temperature results in higher amounts of VOCs released into the headspace. Furthermore, AP-42 section 6.8.3.2 teaches that the temperatures in the process system directly influences the amounts, i.e., the amount vaporized depends on many variables such as tower temperature and the volatility of organics used in the slurry. Therefore, temperature is clearly recognized in the art as a result-dependent variable. In the present application the appellant has proffered no evidence that their claimed range of 5°C to 100°C is critical or otherwise provides unexpected results.

Based on the evidence in the prior art one of ordinary skill would know to maintain the sample at the mean exit temperature of the emissions of the process system in order to determine the amount of VOCs released by the process system.

(E) In response to the final rejection of claims 8-10 the appellant argues that modified instructions of Robbins does not teach the claimed kit; that "generic how-to manuals" (Method AP-42, Method 5035, EPA 815) do not teach the invention; and that Hemphill does not teach or suggest a kit for measuring VOCs.

First, in *In re Ngai*, 70 USPQ 2d 1862, the Court of Appeals for the Federal Circuit (CAFC) reviewed a situation analogous to the present application. In *Ngai* a kit was claimed as follows (emphasis added):

19. A kit for normalizing and amplifying an RNA population, said kit comprising instructions describing the method of claim 1 and a premeasured portion of a reagent selected from the group consisting of: oligo dT biotinylated primer, T7 RNA polymerase, annealed biotinylated primers, streptavidin beads, polyadenyl transferase, reverse transcriptase, Rnase H, DNA pol I, buffers and nucleotides.

The CAFC specifically addressed the elements that formed the claimed kit and clearly showed how it was anticipated by the prior art despite the fact that *Ngai*'s claim 1 method was patentable. In referring to *In re Gulack*, 703 F.2d 1381 [217 USPQ 401] (Fed. Cir. 1983), the CAFC stated:

"This case [*Ngai*], however, is dissimilar from *Gulack*. There the printed matter and the circularity of the band were interrelated, so as to produce a new product useful for

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"educational and recreational mathematical" purposes. Here, addition of a new set of instructions into a known kit does not interrelate with the kit in the same way as the numbers interrelated with the band. In *Gulack*, the printed matter would not achieve its educational purposes without the band, and the band without the printed matter would similarly be unable to produce the desired result. Here, the printed matter in no way depends on the kit, and the kit does not depend on the printed matter. All that the printed matter does is teach a new use for an existing product. As the *Gulack* court pointed out, "[w]here the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability." *Id.* If we were to adopt *Ngai's* position, anyone could continue patenting a product indefinitely provided that they add a new instruction sheet to the product."

The CAFC found that the claimed kit in *Ngai* was anticipated by the prior art since a kit, e.g., a 10X buffer with instructions, was known in the art and that *Ngai's* instructions merely taught how to use the kit (the 10X buffer). More specifically, the CAFC stated:

"All that the printed matter does is teach a new use for an existing product."

and

"He [*Ngai*] is not, however, entitled to patent a known product by simply attaching a set of instructions to that product."

In the present case it is noted that the two elements found in the appellant's claim 8 include an enclosed bag having a sealable opening and a list of instructions for how to use the sealable bag. The appellant does not dispute that sealable bags are known in the art. See *Robbins*. The appellant also does not dispute that *Hemphill* teaches a sealable bag with instructions.

In the present application the appellant's instructions merely teach how to use the known sealable bag. The claimed kit does not depend on the instructions in order to function. Likewise, the claimed instructions do not

depend on the kit in order to teach how to sample. Therefore, the appellant's instructions do not enable any sealable bag from holding any material and only describe a process to store the bag and sample the headspace of the bag. This situation is analogous to how *Ngai*'s instructions taught how to use the known reagent (the 10X buffer). Therefore, based on the CAFC's reasoning and decision in *Ngai* the appellant's claimed kit is clearly anticipated under 35 USC 102(b) to Robbins, Hemphill, or any other known sealable bag.

Furthermore, to rebut the appellant's first argument it is noted that Robbins need not teach or suggest a kit for sampling materials produced in a "process system. It is generally held that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Additionally, motivation need not be expressly stated in or otherwise suggested by Robbins. Motivation can be found in other sources, including other patents or from knowledge generally known to one of ordinary skill.

Robbins, Method AP-42, and Method 5035 teach the appellant's process of as discussed above. Furthermore, Robbins teaches the use of a sealable bag for collecting samples for VOC detection. EPA 815 specifically addresses the need to provide instructions with a kit used for sampling VOCs as discussed above. Finally providing instructions with a sealable bag, thus forming a "kit" is known and is taught by Hemphill.


(11) Related Proceeding(s) Appendix

This application is before to the BPAI for the second time. The BPAI previously rendered an opinion on this case on 19 March 2004. A copy of the BPAI's decision is attached to the appellant's brief.


For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


David Rogers
22 November 2005


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SUPERVISORY PATENT EXAMINER
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